ALOHAN USER MANUAL

(A-Force & R-Force integrated user manual)

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1. Summary

Alohan Actuator allows to conveniently open & close the Valve fast in any places wherever the pneumatic pressure are connected & available. The Valve is designed to thoroughly assure the safety & convenience of users, however, please make sure to operate after reading & digesting the User Manual completely. Please check the homepage of Alohan or inquire with the Customer Service Centers of Alohan & authorized Agents for those items & subjects not described in the Manual.

- Data contained in the User Manual may be subject to change without advance notice for improvement of performance & safety of Product.

1-1. Model System

This is the A-Force&R-Force integrated user manual and each model is as follows.

ⓐ	ⓑ	ⓒ
Adjust angle (scotch-yoke)	Double acting	Model Number
Rack&pinion	Spring return	

<Pneumatic actuator model>

	A-Force	R-Force
Drive method	Scotch-yoke	Rack&pinion
Angle adjustment direction	open/close - Simultaneousadjustment	open/close - Simultaneous adjustment
Angle adjustment range	+5° 90° -10°	-5° 90° -10°
Temperature range	-20℃~80℃ (option -40℃~200℃)	

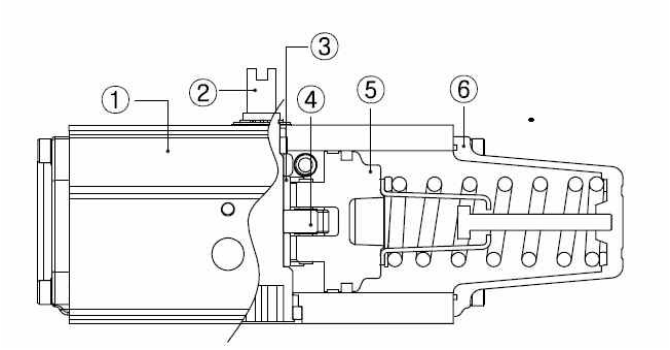
1-2. Label

Models can be identified as labels with lot numbers and model numbers are attached to the products of Aohan.

2. Products

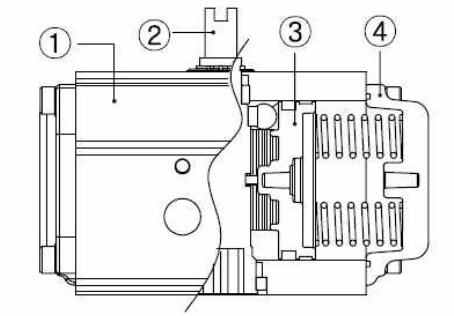
2-1. Internal Construction of Product

Internal construction of the Product is illustrated as following.



NO	PART	MATERIAL
1	BODY	ALUMINUM
2	SHAFT	STEEL ALLOY
3	ROLLER	PLASTIC
4	CRANK	STEEL ALLOY
5	PISTON	ALUMINUM
6	COVER	ALUMINUM

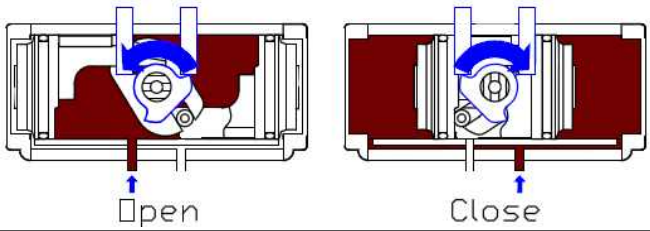
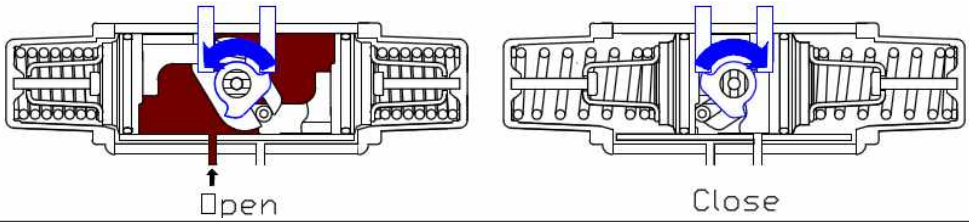
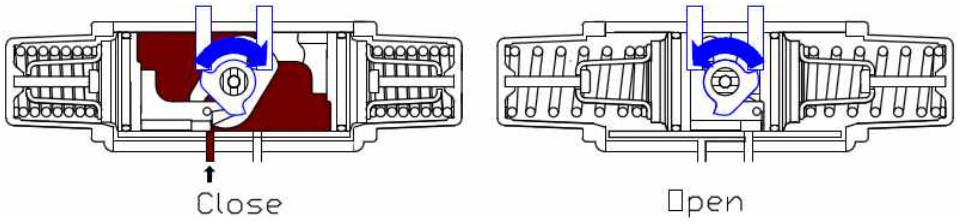
<A-Force (based on A65)>

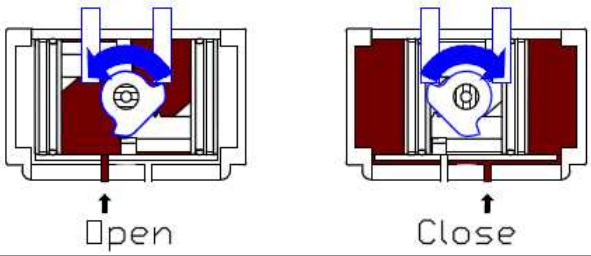
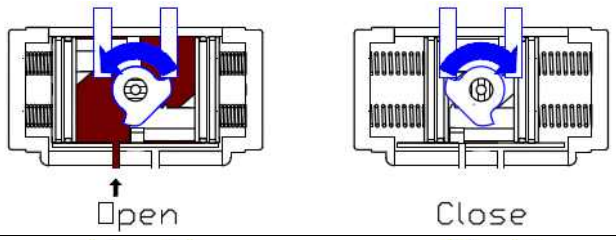
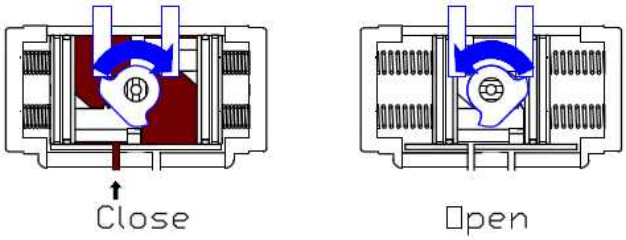


NO	PART	MATERIAL
1	BODY	ALUMINUM
2	SHAFT	STEEL ALLOY
3	PISTON	ALUMINUM
4	COVER	ALUMINUM

<R-Force (based on R65)>

2-2. Product Operation

A-Force		
Double acting Action A		
Spring return	Action A (Fail open)	
	Action B (Fail close)	

R-Force		
Double acting Action A		
Spring return	Action A (Fail open)	
	Action B (Fail close)	

3. Installation

User should execute the product installation after thoroughly digesting the following content.

3-1. Attachable Valve

The Alohan product can be applied to all the Rotary Type Valve executing opening & closing actions rotating 90°.

a. Major Component ; Ball Valve (2 way, 3 way), Butterfly Valve

3-2. Selection of Actuator

Check the following items in advance when selecting the model of Actuator.

a. Required torque to open & close the Valve

b. Air pressure flowing into the Actuator

c. Fluid Characteristic

d. Operating Condition (Extremely Low Temperature, Extremely High Temperature)

e. Other items to consider to operate the Actuator

▷ User may attach the following Valve accessories as required.

a. solenoid valve

b. valve positioner (positioner indicator)

c. limit switch box

d. quick valve

e. declutch gear box

f. Other accessories that may be used to control the Valve.

3-3. Caution during Installation

a. When installing the Product, execute the installation after either removing the potentially hazardous elements or mounting the safety devices considering the accidents & danger that may be happen during the installation works.

b. Alohan Product can be used in any indoor & outdoor places except with the explosive environments, while the rust may be processed a little fast in case of installation in sea shore locations.

c. ⚠CAUTION As for the Products weighing over 20Kg, the Label of below shown flowing may be attached, either lifting by two persons or utilizing the appropriate

device to move the product. Refer to the <Appendix 2> to estimate the individual weight.

d. ⚠WARNING Do not inject air until the Product is completely mounted on the Valve during the installation process.

e. Do not inject air until the Product is completely mounted on the Valve during the installatAmple space allowing the free movement of installation tools is required when installing the Product. User may refer to the <Appendix 2>. rocess.

f. When attaching the Accessories, install after checking the Jointing Method & Joint Section.

g. Do never either use the hazardous substances or operate or store under the condition using hazardous substances. Definition of hazardous substances are those potentially harmful materials, e.g. that may cause explosion or fire, flammable materials, toxic materials, corrosive materials & etc.

4. Operation

User of Product should operate upon fully recognizing the potential danger caused by the inappropriate management.

4-1. Operation

▷ Operating medium: Compressed dry air

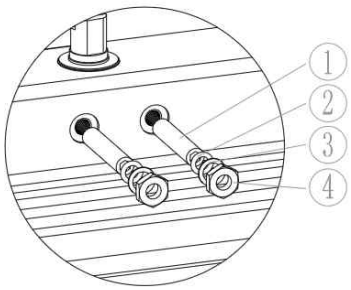
- ⚠CAUTION If the ambient temperature is or may become lower than 5℃, filters for dehumidification should be installed separately. The moisture inside the products is a direct cause of corrosion and failure.
- It is recommended that you should use purified air after eliminating dust and foreign substances in order to prolong the life of the product.
- Do not use anything except the designated medium.

▷ Pressure range: 4~6kg/㎠

- The pressure should not exceed a maximum of 10kg/㎠ for the safety of users and for the life of the product.

4-2. Angle adjustment

In case of the A-Force&R-Force, there is an adjusting bolt which adjusts the open/close angle at the back of the products.



①	Headless wrench bolt
②	O-ring
③	Washer
④	Nut

▷ Angle adjustment method (In case of standard-fail close)

- When you want to adjust the open position, put air in the left port or, if air is not available, rotate the shaft counterclockwise with a spanner to make it open. (when you want to adjust the close position, do it the other way round) ⇒ <u>If you omit this process, you can not adjust a correct angle and therefore it cannot be assembled correctly, thus causing a breakdown as the headless wrench bolt becomes bent.</u>
- The left bolt is used to adjust the open position and the right bolt is used to adjust the close position. (When it is in the fail-open position, do it the other way round.)
- Using a spanner or monkey wrench, unfasten the ④ nut slightly which you want to adjust.

- If you want to open or close it less, use a wrench to fasten the ① bolt clockwise as required while checking the position of the valve.
- If you want to open or close it more, use a wrench to unfasten the ① bolt slightly counterclockwise and check the angle while turning the shaft with a spanner from time to time. ⇒ Even in case you want to make this product closed completely to the maximum, it is safe to insert the bolt 1~2 threads more when the bolt touches the stopper. (Do not pull the bolt out completely.)
- If you get the angle you want, fasten the ④ nut tightly by turning it clockwise.
- Put air in the left port and check if air leaks by pouring soapy water at the washer part before using it.

4-3. Caution during Operation

a. Alohan Product is designed to open & closed the Valve. Do not use the Product on the purposes other than specified applications.

b. Ensure not to have the unskilled labors user the Product at own discretion.

c. Ensure to approach after completely securing the safety when the access to the Product under operation is desired.

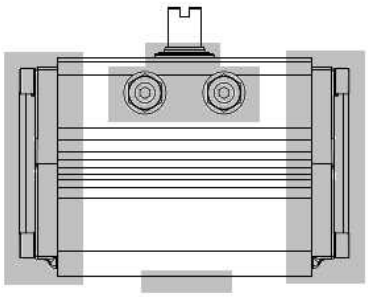
d. When not using the Product over the long period of time, conceal the Air Injection Inlet in order to prevent the infiltration of moisture.

5. Maintenance & Repair

5-1. Self Diagnosis

All the Alohan Actuators, going through the high pressure test from the development stage, are to be individually & fully tested prior to the shipment from factory. However, in the event the Product oftentimes does not operate with normal condition, execute the Self Diagnosis referring the below table. Nevertheless, if the trouble occurred is not still resolved, contact the Alohan or authorized Agents for customer service support.

▷ Valve Not Working At All

Check	Result	Cause of Trouble	Troubleshooting
Remove Actuator & inject air.	Working.	Torque of Valve is higher than that of Actuator.	Install higher capacity model Actuator.
		Injection air pressure too low.	Increase the Injection air pressure.
	Not working.	**Check Actuator;** 1. Paste the soapy water with brush on the shadowy area of the following, and check the presence of air leakage to outside. 2. Paste the soapy water on Section B of flowing injecting air into Inlet A, and check the presence of bubble.. 	If the air is leaked or bubble is generated, contact the Customer Service Center of Aohan to replace the O-Ring or receive the Post Order Service.
		Check the Air Injecting Pipe; Possibility of clogging with foreign substances or leaks.	Remove the foreign substances or contact the Customer Service Center of corresponding manufacturer for service.
		Check the Solenoid Valve or electrical devices; Possibility of disconnect or unsuitable voltage.	Contact the Customer Service Center of corresponding manufacturer for service.

▷ When Valve is Closed Stopping the Opening Process.

Check Item	Cause of Trouble	Troubleshooting
Check the Actuator.	Angle Adjusting Bolt turned inside too excessively.	Use by properly adjusting the Bolt per User's need.
	Injecting Air Pressure too low.	Increase the Injecting Air Pressure.
	Torque of Valve is higher than that of Actuator.	Install higher capacity model Actuator.
	Force of Spring too weak for Spring Return Model.	Contact the Customer Service Center of Alohan orauthorized Agents.
	Actuator Check; Refer to page 10.	In case of Air Leakage or presence of bubble, contact the Customer Service Center of Alohan to receive the Post Order Service.
Check Other Connecting Sections.	Check the Air Injecting Pipe.; Possibility of clogging with foreign substances or leaks.	Remove the foreign substances or contact the Customer Service Center of corresponding manufacturer for service.
	Check the Solenoid Valve or electrical devices; Possibility of disconnect or unsuitable voltage.	Contact the Customer Service Center of corresponding manufacturer for service.

5-2. Assembling & Disassembling

The assembling & disassembling of Product should be executed by the Skilled Labors of Alohan or authorized Agents to secure the safety of Users and life cycle of Product in principle. However, in the event the indispensable assembling & disassembling of Product at site is desired due to unavoidable reasons, make sure to execute the works only after consulting with the persons in charge of Product of Alohan or authorized Agents to receive sufficient instructions through e-mail or telephone communications.

▷ Skilled Labor ; Persons who have received the professional trainings of Alohan or authorized Agents and recognizes all the potentially dangerous situations. Further, the Skilled Labor must possess all the required knowledge on app applicable laws & regulations with regard to the occurrence of unexpected accidents and other special job site conditions.

※ In the event the addition or variation from the original design of Product are to be desired, make sure to execute the works after consulting with Alohan or authorized Agents to receive sufficient instructions. Alohan does not assume the responsibility for any property damages or personal injuries caused by the User's operating faults or arbitrary design change & improper maintenance works.

6. Customer Service Support Contact

e-mail: info@alohan.co.kr
Home page : www.alohan.co.kr

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